I CLAIM

1. A detector for a device for measuring radioactive areas, said device having two electrodes between which a voltage is applied, and also having a counter gas; said electrodes being arranged on opposite surfaces of a support, and including channels which pierce said electrodes and said support; whereby said counter gas is in contact with said electrodes via said channels.

2. A detector according to Claim 1, wherein said electrodes are arranged directly on said support; and wherein said support consists of an electrically non-conducting material.

3. A detector according to Claim 1, including an insulating layer provided between each of said electrodes and said support.

4. A detector according to Claim 1, wherein said support consists wholly or partially of a ceramic material.

5. A detector according to Claim 1, including a plurality of first and second electric conductors arranged over said channels; wherein said first conductors extend in a first direction; wherein said second conductors extend in a second direction; and wherein said conductors are connected to an evaluation unit.

6. A detector according to Claim 1, wherein the diameter of said channels is between about 0.2 and about 0.005 mm.

7. A detector according to Claim 1, wherein the spacing between adjacent channels is about 0.1 to about 1 mm.

8. A detector according to claim 13, wherein said spacing is in the range of from about 3 to about 10 mm.

9. A detector according to Claim 1, wherein the spacing between the electrodes is adjusted, according to the energy of the particles or quanta to be measured; and wherein the pressure of the counter gas can be varied according to the energy of the particles or the quanta to be measured

10. A measuring device comprising: two electrodes between which a voltage is applied, and also having a counter gas; said electrodes being arranged on opposite surfaces of a support, and including channels which pierce said electrodes and the said support; whereby said counter gas is in contact with said electrodes via said channels; and a housing, at least one wall of which is transparent to the type of radiation to be measured; said detector being disposed in said housing.

11. A measuring device according to Claim 10, wherein said counter gas is a mixture of neon, helium and methane.

12. A measuring device according to Claim 11, wherein said counter gas contains about 30 to about 95% by volume neon, 0 to about 65% by volume helium, and about 3.5% by volume methane.

13. A measuring device according to Claim 12, wherein said counter gas contains about 65.5% by volume neon, about 30% by volume helium, and about 4.5% by volume methane.